

INTERNATIONAL SEARCH REPORT

PCT/EP2004/011483

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>RALF MESKE, JÜRGEN SAUTER, MATTHIAS FRIEDRICH: "Topologie- und Gestaltoptimierung mit CAOSS und ABAQUS" [Online] 29 November 2000 (2000-11-29), XP002328332 ABAQUS ANWENDERTREFFEN 2000, WINTERTHUR Retrieved from the Internet: URL: http://www.fe-design.de/fileadmin/publikationen/publikationen2000/2000-09-29_ABAQUS_Anwendertreffen_Paper.pdf [retrieved on 2005-05-17] insbesondere die Abb. 5 the whole document</p> <p>----- -/--</p>	1-8

☒ Further documents are listed in the continuation of box C.☐ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search

10 August 2005

Date of mailing of the international search report

25. 10. 05

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Lerbinger, K

INTERNATIONAL SEARCH REPORT

PCT/EP2004/011483

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	HAMM C E ET AL: "Architecture and material properties of diatom shells provide effective mechanical protection" NATURE NATURE PUBLISHING GROUP UK, vol. 421, no. 6925, 20 February 2003 (2003-02-20), pages 841-843, XP002328333 ISSN: 0028-0836 cited in the application the whole document	1,7,8
A	----- PARKINSON J ET AL: "Beyond micromachining: the potential of diatoms" TRENDS IN BIOTECHNOLOGY, ELSEVIER, AMSTERDAM, NL, vol. 17, no. 5, May 1999 (1999-05), pages 190-196, XP004181356 ISSN: 0167-7799 siehe die Abschnitte: Introduction to diatoms, The diatom frustule; Abb. 1 the whole document -----	1,7,8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2004/011483

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See supplemental sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-8

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

Box III

The International Searching Authority has determined that this international application contains multiple (groups of) inventions, as follows:

1. Claims 1-8

Method for determining structural prototype model data for a technical lightweight structure, involving, *inter alia*, the following four method steps:

- (1) pre-selection of one or more biomineralised monocellular organisms with a natural shell architectures adapted to the relevant base parameters of the technical lightweight structure to be built;
- (2) selection of one or more microstructures of the sections of pre-selected shell architectures that are the most promising from the point of view of technical implementation;
- (3) direct acceptance of the structural data from the selected microstructures; and
- (4) scaling of the accepted structural data from the selected microstructures.

2. Claims 9-13

Prototype model for a lightweight wheel rim for a motor vehicle comprising an inner wheel rim body that can be secured on one side to an axle and an outer wheel rim base connected thereto.